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EXAMINER	
FLORES, LEON	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/799,322	JONSSON, ELIAS	
	Examiner	Art Unit	
	Leon Flores	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 4, lines 22-23 filed 8/9/2007 with respect to the rejection(s) of claim(s) 1-47 under 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of (US Patent 6,975,672 B2)

Response to Remarks

Applicant asserts that, *"the examiner alleges that Section III B of Bottomley teaches the claimed "generating an estimate of inter-symbol interference in the received signal." As the examiner correctly notes, Section III B of Bottomley describes the determining of RAKE finger delays and Generalized RAKE combining weights. As that section of Bottomley explains, RAKE finger delays correlate to received signal delays (i.e., multipath delays). RAKE finger delays self-evidently are not estimates of inter-symbol interference".*

The examiner respectfully disagrees. The examiner did not, at any point, state that the RAKE finger delays are estimates of intersymbol interference, as stated by applicant. The examiner cited section III of the Bottomley reference in order to point out the estimates of inter-symbol interference. This estimates of intersymbol interference (ISI) are clearly shown in equation 8 by U, "u models the overall noise (noise and interference).", where u is illustrated between equation 21 and 22 as being the sum of intersymbol interference (ISI), multi-user interference (MUI), and noise (n).

Applicant asserts that, *"that same section details the computation of Generalized RAKE combining weights w. As Bottomley explains for the Generalized RAKE context, these combining weights are used to combine corresponding despread values ("finger outputs") from a plurality of RAKE fingers".*

The examiner respectfully disagrees. As described in equations 41 and 42, "the suppression of interference can be seen by applying the weights to the interference components". Furthermore, see figure 2 and equations 7-9.

Applicant asserts that, *"Bottomley explains that the impairment covariance matrix R~1 reflects the effects of colored noise arising from, e.g., intracell interference. However, the covariance matrix itself cannot legally be construed as the claimed estimate of the inter-symbol interference. The other noise terms discussed are thermal and other-cell/background noise, which Bottomley represents as Guassian white noise. That white noise cannot legally be construed as the claimed estimate of inter-symbol interference. Thus, there is no evidence to support the assertion that Bottomley teaches the first element of claim 1. Arguing that Bottomley does provide such teachings represents an impermissibly overbroad construction of the claim language, or represents a failure to consider explicit claim limitations, or represents a profound misunderstanding of Bottomley".*

The examiner respectfully disagrees. It is clearly shown in equation 22 that this covariance matrix R_U is comprised of the sum of the expected values of intersymbol interference (ISI), multi-user interference (MUI), and noise (n). Furthermore, estimates of the inter-symbol interferences are clearly shown in equation 8 by U, and the

covariance matrix is the expected value of U, as illustrated in section III between equations 8 and 9.

Applicant asserts that, *"Bottomley does not teach the claimed limitation of "scaling the estimated inter- symbol interference by a cancellation metric comprising a scalar value corresponding to inter- symbol interference cancellation performance of the receiver." Section III B of Bottomley describes the application of combining weights to finger outputs. The combining weights are described as matrix/vector terms that depend on propagation channel characteristics and the covariance of interference across RAKE fingers. Self-evidently, the combining weights cannot be argued as the claimed "estimated inter-symbol interference, nor argued as the claimed cancellation metric, which represents the inter-symbol interference cancellation performance of the receiver. See, e.g., paragraphs 0030 and 0031 of the instant application for an example discussion of the cancellation metric".*

The examiner respectfully disagrees. It is clearly shown in equations 7-9, 20-22 & 41-42 that these weights compensate for interferences, such as inter-symbol, multi-user, and noise. Furthermore, the first few lines, right before equation 42, it states ""the suppression of interference can be seen by applying the weights to the interference components".

Applicant asserts that, *"applicant notes that claim 1 is directed to a method of signal quality estimation "in an inter-symbol interference canceling receiver." In contrast, Section IV of Bottomley represents the author's performance analysis presented for the Generalized RAKE receiver architecture of Bottomley".*

The examiner respectfully disagrees. Bottomley's reference teaches, *"A Generalized RAKE Receiver for Interference Suppression"*, as described in the title. And these interferences are shown in equation 22 as being inter-symbol interference, multi-user interference and noise.

Applicant asserts that, *"Bottomley never describes a scalar value that corresponds to the inter-symbol interference cancellation performance of the receiver, such that an estimate of such interference can be scaled as claimed (to approximate the known or expected interference suppression that will occur in the receiver)".*

The examiner respectfully agrees. Although vectors can be scalars, the weights described in Bottomley are vectors, and not scalars. However, the examiner has issue a new ground of rejection in order to substantiate for this limitation.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims (1-47) are rejected under 35 U.S.C. 103(a) as being unpatentable over Bottomley et al (hereinafter Bottomley I), *"A Generalized RAKE Receiver for Interference Suppression"*, IEEE Journal on selected areas in communications, Vol. 18, No. 8, August 2000, in view of Bottomley et al. (hereinafter Bottomley II) (US Patent 6,975,672 B2)**

Re claim 1, Bottomley I discloses a method of determining received signal quality for a received signal in an inter-symbol interference canceling receiver comprising: generating an estimate of inter-symbol interference in the received signal (See section III: B, "Combining weights and finger delays", see figure 2 and equation 8); scaling the estimated inter-symbol interference by a cancellation metric comprising a scalar value corresponding to inter-symbol interference cancellation performance of the receiver (See section III: B, "Combining weights and finger delays". See figure 2 and equations 7-9); and estimating the received signal quality based on the scaled estimate of inter-symbol interference. (See section IV equations 43 & 44)

But the reference of Bottomley I fails to teach a scalar value corresponding to inter-symbol interference.

However, Bottomley II does. (See figure 3 & col. 5, lines 1-10, equations 6-11) Bottomley II discloses a system for suppressing inter-symbol interference by computing ISI factors. And according to equations 8-11, these factors are scalar values.

Therefore, taking the combined teachings of Bottomley I and Bottomley II as a whole. It would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Bottomley I, in the manner as claimed and as taught by Bottomley II, for the benefit of suppressing inter-symbol interference at the receiver.

Re claim 2, the combination of Bottomley I and Bottomley II further discloses that wherein estimating the received signal quality based on the scaled estimate of inter-symbol interference comprises estimating a signal-to-interference ratio of the received signal. (In Bottomley I, see section IV)

Re claim 3, the combination of Bottomley I and Bottomley II further discloses that periodically estimating the signal-to-interference ratio of the received signal and periodically transmitting corresponding channel quality information to a supporting wireless communication network. (In Bottomley I, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Re claim 4, the combination of Bottomley I and Bottomley II further discloses that periodically estimating the signal-to-interference ratio of the received signal, generating corresponding link power control commands, and transmitting the link power control commands to a supporting wireless communication network. (In Bottomley I, see

sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Re claim 5, the combination of Bottomley I and Bottomley II further discloses that storing the cancellation metric in a memory of the receiver as a pre-configured value. (In Bottomley I, see section III. One skilled in the art would know that these metrics are stored in a memory.)

Re claim 6, the combination of Bottomley I and Bottomley II further discloses that determining the pre-configured value of the cancellation metric by characterizing inter-symbol interference cancellation performance of the receiver, or of a same type of receiver. (In Bottomley I, see section III. One skilled in the art would know that these metrics can be pre-configured values.)

Re claim 7, the combination of Bottomley I and Bottomley II further discloses that maintaining the cancellation metric as a dynamically updated value based on inter-symbol interference cancellation performance of the receiver as measured during operation. (In Bottomley I, see section III: B, "Combining weights and finger delays". One skilled in the art would know that these metrics can be dynamically updated in order to compensate for time-varying channel impairments.)

Re claim 8, the combination of Bottomley I and Bottomley II further discloses that wherein the received signal comprises a WCDMA Dedicated Physical Channel (DPCH) signal, and wherein determining received signal quality for a received signal in an inter-symbol interference canceling receiver comprises, for each timeslot of the DPCH signal, estimating the received signal quality based on the scaled estimate of inter-symbol interference, generating a corresponding transmit power control command, and transmitting the power control command to a supporting WCDMA network. (In Bottomley I, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Re claim 9, the combination of Bottomley I and Bottomley II further discloses that, wherein generating an estimate of inter-symbol interference in the received signal comprises generating an expected value of the inter-symbol interference in the received signal. (In Bottomley I, see section III: B, "Combining weights and finger delays", equation 22.)

Re claim 10, the combination of Bottomley I and Bottomley II further discloses that, wherein scaling the estimated inter-symbol interference by a cancellation metric comprising a scalar value corresponding to inter-symbol interference cancellation performance of the receiver (In Bottomley II, see equations 8-11) comprises multiplying the expected value of the inter-symbol interference by the cancellation metric, or by a

ratio of the cancellation metric. (In Bottomley I, see section III: B, "Combining weights and finger delays".)

Re claim 11, the combination of Bottomley I and Bottomley II further discloses that, wherein estimating the received signal quality based on the scaled estimate of inter-symbol interference comprises estimating a received signal power for the received signal, estimating an additional impairment component of the received signal corresponding to other than inter-symbol interference, and calculating the signal-to-interference ratio of the received signal as a ratio of the received signal power over a sum of the scaled estimate of inter-symbol interference and the additional impairment component. (In Bottomley I, see section III: B, "Combining weights and finger delays" & section IV.)

Re claim 12, the combination of Bottomley I and Bottomley II further discloses that, wherein the received signal power, the scaled estimate of inter-symbol interference, and the additional impairment component, are estimated using combined values corresponding to RAKE fingers in the receiver that are associated with the received signal. (In Bottomley I, see section III: B, "Combining weights and finger delays".)

Re claim 13, the combination of Bottomley I and Bottomley II further discloses that, wherein estimating a received signal power for the received signal comprises

calculating the received signal power based on the magnitudes of net channel responses and signal amplitudes for propagation paths associated with the received signal. (In Bottomley I, see section III: B, "Combining weights and finger delays".)

Re claim 14, the combination of Bottomley I and Bottomley II further discloses that, wherein estimating an additional impairment component of the received signal corresponding to other than inter-symbol interference comprises estimating an interference variance based on received pilot channel symbols. (In Bottomley I, see section III: B, "Combining weights and finger delays".)

Re claim 15, the combination of Bottomley I and Bottomley II further discloses that storing a cancellation metric for each of one or more supporting network transmitters, and wherein scaling the estimated inter-symbol interference by a cancellation metric comprising a scalar value corresponding to inter-symbol interference cancellation performance of the receiver (In Bottomley II, see equations 8-11) comprises scaling an estimated inter-symbol interference estimate for each of the one or more network transmitters by the corresponding cancellation metric. (In Bottomley I, see section III: B, "Combining weights and finger delays". & figure 2)

Re claim 16, the combination of Bottomley I and Bottomley II further discloses that determining the cancellation metric based on generating a combined estimate for inter-symbol interference and other impairment in the received signal and removing a

noise variance estimate corresponding to the other impairment from the combined estimate to obtain the cancellation metric. (In Bottomley I, see section III: B, "Combining weights and finger delays".)

Claim 17 is a system claim corresponding to method claim 1. Hence, the steps performed in method claim 1 would have necessitated the elements in system claim 17. Therefore, claim 17 has been analyzed and rejected w/r to claim 1.

Claim 18 is a system claim corresponding to method claim 2. Hence, the steps performed in method claim 2 would have necessitated the elements in system claim 18. Therefore, claim 18 has been analyzed and rejected w/r to claim 2.

Claim 19 is a system claim corresponding to method claim 3. Hence, the steps performed in method claim 3 would have necessitated the elements in system claim 19. Therefore, claim 19 has been analyzed and rejected w/r to claim 3.

Claim 20 is a system claim corresponding to method claim 4. Hence, the steps performed in method claim 4 would have necessitated the elements in system claim 20. Therefore, claim 20 has been analyzed and rejected w/r to claim 4.

Claim 21 is a system claim corresponding to method claim 5. Hence, the steps performed in method claim 5 would have necessitated the elements in system claim 21. Therefore, claim 21 has been analyzed and rejected w/r to claim 5.

Claim 22 is a system claim corresponding to method claim 7. Hence, the steps performed in method claim 7 would have necessitated the elements in system claim 22. Therefore, claim 22 has been analyzed and rejected w/r to claim 7.

Claim 23 is a system claim corresponding to method claim 8. Hence, the steps performed in method claim 8 would have necessitated the elements in system claim 23. Therefore, claim 23 has been analyzed and rejected w/r to claim 8.

Claim 24 is a system claim corresponding to method claim 9. Hence, the steps performed in method claim 9 would have necessitated the elements in system claim 24. Therefore, claim 24 has been analyzed and rejected w/r to claim 9.

Claim 25 is a system claim corresponding to method claim 10. Hence, the steps performed in method claim 10 would have necessitated the elements in system claim 25. Therefore, claim 25 has been analyzed and rejected w/r to claim 10.

Claim 26 is a system claim corresponding to method claim 11. Hence, the steps performed in method claim 11 would have necessitated the elements in system claim 26. Therefore, claim 26 has been analyzed and rejected w/r to claim 11.

Claim 27 is a system claim corresponding to method claim 12. Hence, the steps performed in method claim 12 would have necessitated the elements in system claim 27. Therefore, claim 27 has been analyzed and rejected w/r to claim 12.

Re claim 28, the combination of Bottomley I and Bottomley II further discloses that wherein the processing circuit comprises at least a portion of an integrated circuit device that is arranged and configured for baseband signal processing in a wireless communication receiver. (In Bottomley I, see fig. 2)

Claim 29 is a system claim corresponding to method claim 15. Hence, the steps performed in method claim 15 would have necessitated the elements in system claim 29. Therefore, claim 29 has been analyzed and rejected w/r to claim 15.

Re claim 30, the combination of Bottomley I and Bottomley II further discloses that, wherein the one or more supporting network transmitters are associated with different network cells, and wherein the processing circuit estimates and scales inter-symbol interference on a per cell basis. (In Bottomley I, see section III: B, "Combining weights and finger delays".)

Claim 29 is a system claim corresponding to method claim 15. Hence, the steps performed in method claim 15 would have necessitated the elements in system claim 29. Therefore, claim 29 has been analyzed and rejected w/r to claim 15.

Claim 31 is a system claim corresponding to method claim 1. Hence, the steps performed in method claim 1 would have necessitated the elements in system claim 31. Therefore, claim 31 has been analyzed and rejected w/r to claim 1. Furthermore, the system described in this reference is a CDMA-based system.

Claim 32 is a system claim corresponding to method claim 2. Hence, the steps performed in method claim 2 would have necessitated the elements in system claim 32. Therefore, claim 32 has been analyzed and rejected w/r to claim 2.

Claim 33 is a system claim corresponding to method claim 3. Hence, the steps performed in method claim 3 would have necessitated the elements in system claim 33. Therefore, claim 33 has been analyzed and rejected w/r to claim 3.

Claim 34 is a system claim corresponding to method claim 4. Hence, the steps performed in method claim 4 would have necessitated the elements in system claim 34. Therefore, claim 34 has been analyzed and rejected w/r to claim 4.

Claim 35 is a system claim corresponding to method claim 5. Hence, the steps performed in method claim 5 would have necessitated the elements in system claim 35. Therefore, claim 35 has been analyzed and rejected w/r to claim 5.

Claim 36 is a system claim corresponding to method claim 7. Hence, the steps performed in method claim 7 would have necessitated the elements in system claim 36. Therefore, claim 36 has been analyzed and rejected w/r to claim 7.

Claim 37 is a system claim corresponding to method claim 8. Hence, the steps performed in method claim 8 would have necessitated the elements in system claim 37. Therefore, claim 37 has been analyzed and rejected w/r to claim 8.

Claim 38 is a system claim corresponding to method claim 9. Hence, the steps performed in method claim 9 would have necessitated the elements in system claim 38. Therefore, claim 38 has been analyzed and rejected w/r to claim 9.

Claim 39 is a system claim corresponding to method claim 10. Hence, the steps performed in method claim 10 would have necessitated the elements in system claim 39. Therefore, claim 39 has been analyzed and rejected w/r to claim 10.

Claim 40 is a system claim corresponding to method claim 11. Hence, the steps performed in method claim 11 would have necessitated the elements in system claim 40. Therefore, claim 40 has been analyzed and rejected w/r to claim 11.

Claim 41 is a system claim corresponding to method claim 12. Hence, the steps performed in method claim 12 would have necessitated the elements in system claim 41. Therefore, claim 41 has been analyzed and rejected w/r to claim 12.

Re claim 42, the combination of Bottomley I and Bottomley II further discloses that, wherein the device comprises a mobile terminal configured for operation in a WCDMA wireless communication network, and wherein the device is configured to determine the received signal quality via use of the processing circuit for one or more received WCDMA signal transmitted by the network. (In Bottomley I, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Re claim 43, the combination of Bottomley I and Bottomley II further discloses that, wherein the mobile terminal is configured periodically to report Channel Quality Information for a High Speed Packet Data Service signal transmitted by the network based on determining received signal quality for the signal via the processing circuit. (In Bottomley I, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP

commands back to the Base station.)

Re claim 44, the combination of Bottomley I and Bottomley II further discloses that, wherein the mobile terminal is configured periodically to transmit forward link power control commands to the network based on determining received signal quality via the processing circuit for one or more WCDMA signals transmitted by the network. (In Bottomley I, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Claim 45 has been analyzed and rejected w/r to claim 1 above. Furthermore, the steps performed in method claim 1 would have necessitated a computer readable medium to store the computer program or instructions.

Claim 46 has been analyzed and rejected w/r to claim 11 above. Furthermore, the steps performed in method claim 11 would have necessitated a computer readable medium to store the computer program or instructions.

Claim 47 has been analyzed and rejected w/r to claim 12 above. Furthermore, the steps performed in method claim 12 would have necessitated a computer readable medium to store the computer program or instructions.

5. Claims (1-47) are rejected under 35 U.S.C. 103(a) as being unpatentable over Bottomley et al (hereinafter Bottomley), *"A Generalized RAKE Receiver for Interference Suppression"*, IEEE Journal on selected areas in communications, Vol. 18, No. 8, August 2000.

Re claim 1, Bottomley I discloses a method of determining received signal quality for a received signal in an inter-symbol interference canceling receiver comprising: generating an estimate of inter-symbol interference in the received signal (See section III: B, "Combining weights and finger delays", see figure 2 and equation 8); scaling the estimated inter-symbol interference by a cancellation metric comprising a scalar value corresponding to inter-symbol interference cancellation performance of the receiver (See section III: B, "Combining weights and finger delays". See figure 2 and equations 7-9); and estimating the received signal quality based on the scaled estimate of inter-symbol interference. (See section IV equations 43 & 44)

But the reference of Bottomley I fails to explicitly teach a scalar value corresponding to inter-symbol interference.

However, the referemce of Bottomley does teach a matrix vector value corresponding to interference cancellation. Such Interference includes inter-symbol and multi-user. Furthermore, one skilled in the art would know that vectors can be scalars. Therefore, It would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Bottomley, for the benefit of suppressing inter-symbol interference at the receiver.

Re claim 2, the reference of Bottomley further discloses that wherein estimating the received signal quality based on the scaled estimate of inter-symbol interference comprises estimating a signal-to-interference ratio of the received signal. (In Bottomley, see section IV)

Re claim 3, the reference of Bottomley further discloses that periodically estimating the signal-to-interference ratio of the received signal and periodically transmitting corresponding channel quality information to a supporting wireless communication network. (In Bottomley, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Re claim 4, the reference of Bottomley further discloses that periodically estimating the signal-to-interference ratio of the received signal, generating corresponding link power control commands, and transmitting the link power control commands to a supporting wireless communication network. (In Bottomley, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Re claim 5, the reference of Bottomley further discloses that storing the cancellation metric in a memory of the receiver as a pre-configured value. (In Bottomley,

see section III. One skilled in the art would know that these metrics are stored in a memory.)

Re claim 6, the reference of Bottomley further discloses that determining the pre-configured value of the cancellation metric by characterizing inter-symbol interference cancellation performance of the receiver, or of a same type of receiver. (In Bottomley, see section III. One skilled in the art would know that these metrics can be pre-configured values.)

Re claim 7, the reference of Bottomley further discloses that maintaining the cancellation metric as a dynamically updated value based on inter-symbol interference cancellation performance of the receiver as measured during operation. (In Bottomley, see section III: B, "Combining weights and finger delays". One skilled in the art would know that these metrics can be dynamically updated in order to compensate for time-varying channel impairments.)

Re claim 8, the reference of Bottomley further discloses that wherein the received signal comprises a WCDMA Dedicated Physical Channel (DPCH) signal, and wherein determining received signal quality for a received signal in an inter-symbol interference canceling receiver comprises, for each timeslot of the DPCH signal, estimating the received signal quality based on the scaled estimate of inter-symbol interference, generating a corresponding transmit power control command, and

transmitting the power control command to a supporting WCDMA network. (In Bottomley, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Re claim 9, the reference of Bottomley further discloses that, wherein generating an estimate of inter-symbol interference in the received signal comprises generating an expected value of the inter-symbol interference in the received signal. (In Bottomley, see section III: B, "Combining weights and finger delays", equation 22.)

Re claim 10, the reference of Bottomley further discloses that, wherein scaling the estimated inter-symbol interference by a cancellation metric comprising a scalar value corresponding to inter-symbol interference cancellation performance of the receiver comprises multiplying the expected value of the inter-symbol interference by the cancellation metric, or by a ratio of the cancellation metric. (In Bottomley, see section III: B, "Combining weights and finger delays".)

Re claim 11, the reference of Bottomley further discloses that, wherein estimating the received signal quality based on the scaled estimate of inter-symbol interference comprises estimating a received signal power for the received signal, estimating an additional impairment component of the received signal corresponding to other than inter-symbol interference, and calculating the signal-to-interference ratio of the received

signal as a ratio of the received signal power over a sum of the scaled estimate of inter-symbol interference and the additional impairment component. (In Bottomley, see section III: B, "Combining weights and finger delays" & section IV.)

Re claim 12, the reference of Bottomley further discloses that, wherein the received signal power, the scaled estimate of inter-symbol interference, and the additional impairment component, are estimated using combined values corresponding to RAKE fingers in the receiver that are associated with the received signal. (In Bottomley, see section III: B, "Combining weights and finger delays".)

Re claim 13, the reference of Bottomley further discloses that, wherein estimating a received signal power for the received signal comprises calculating the received signal power based on the magnitudes of net channel responses and signal amplitudes for propagation paths associated with the received signal. (In Bottomley, see section III: B, "Combining weights and finger delays".)

Re claim 14, the reference of Bottomley further discloses that, wherein estimating an additional impairment component of the received signal corresponding to other than inter-symbol interference comprises estimating an interference variance based on received pilot channel symbols. (In Bottomley, see section III: B, "Combining weights and finger delays".)

Re claim 15, the reference of Bottomley further discloses that storing a cancellation metric for each of one or more supporting network transmitters, and wherein scaling the estimated inter-symbol interference by a cancellation metric comprising a scalar value corresponding to inter-symbol interference cancellation performance of the receiver comprises scaling an estimated inter-symbol interference estimate for each of the one or more network transmitters by the corresponding cancellation metric. (In Bottomley, see section III: B, "Combining weights and finger delays". & figure 2)

Re claim 16, the reference of Bottomley further discloses that determining the cancellation metric based on generating a combined estimate for inter-symbol interference and other impairment in the received signal and removing a noise variance estimate corresponding to the other impairment from the combined estimate to obtain the cancellation metric. (In Bottomley, see section III: B, "Combining weights and finger delays".)

Claim 17 is a system claim corresponding to method claim 1. Hence, the steps performed in method claim 1 would have necessitated the elements in system claim 17. Therefore, claim 17 has been analyzed and rejected w/r to claim 1.

Claim 18 is a system claim corresponding to method claim 2. Hence, the steps performed in method claim 2 would have necessitated the elements in system claim 18. Therefore, claim 18 has been analyzed and rejected w/r to claim 2.

Claim 19 is a system claim corresponding to method claim 3. Hence, the steps performed in method claim 3 would have necessitated the elements in system claim 19. Therefore, claim 19 has been analyzed and rejected w/r to claim 3.

Claim 20 is a system claim corresponding to method claim 4. Hence, the steps performed in method claim 4 would have necessitated the elements in system claim 20. Therefore, claim 20 has been analyzed and rejected w/r to claim 4.

Claim 21 is a system claim corresponding to method claim 5. Hence, the steps performed in method claim 5 would have necessitated the elements in system claim 21. Therefore, claim 21 has been analyzed and rejected w/r to claim 5.

Claim 22 is a system claim corresponding to method claim 7. Hence, the steps performed in method claim 7 would have necessitated the elements in system claim 22. Therefore, claim 22 has been analyzed and rejected w/r to claim 7.

Claim 23 is a system claim corresponding to method claim 8. Hence, the steps performed in method claim 8 would have necessitated the elements in system claim 23. Therefore, claim 23 has been analyzed and rejected w/r to claim 8.

Claim 24 is a system claim corresponding to method claim 9. Hence, the steps performed in method claim 9 would have necessitated the elements in system claim 24. Therefore, claim 24 has been analyzed and rejected w/r to claim 9.

Claim 25 is a system claim corresponding to method claim 10. Hence, the steps performed in method claim 10 would have necessitated the elements in system claim 25. Therefore, claim 25 has been analyzed and rejected w/r to claim 10.

Claim 26 is a system claim corresponding to method claim 11. Hence, the steps performed in method claim 11 would have necessitated the elements in system claim 26. Therefore, claim 26 has been analyzed and rejected w/r to claim 11.

Claim 27 is a system claim corresponding to method claim 12. Hence, the steps performed in method claim 12 would have necessitated the elements in system claim 27. Therefore, claim 27 has been analyzed and rejected w/r to claim 12.

Re claim 28, the reference of Bottomley further discloses that wherein the processing circuit comprises at least a portion of an integrated circuit device that is

arranged and configured for baseband signal processing in a wireless communication receiver. (In Bottomley, see fig. 2)

Claim 29 is a system claim corresponding to method claim 15. Hence, the steps performed in method claim 15 would have necessitated the elements in system claim 29. Therefore, claim 29 has been analyzed and rejected w/r to claim 15.

Re claim 30, the reference of Bottomley further discloses that, wherein the one or more supporting network transmitters are associated with different network cells, and wherein the processing circuit estimates and scales inter-symbol interference on a per cell basis. (In Bottomley, see section III: B, "Combining weights and finger delays".)

Claim 29 is a system claim corresponding to method claim 15. Hence, the steps performed in method claim 15 would have necessitated the elements in system claim 29. Therefore, claim 29 has been analyzed and rejected w/r to claim 15.

Claim 31 is a system claim corresponding to method claim 1. Hence, the steps performed in method claim 1 would have necessitated the elements in system claim 31. Therefore, claim 31 has been analyzed and rejected w/r to claim 1. Furthermore, the system described in this reference is a CDMA-based system.

Claim 32 is a system claim corresponding to method claim 2. Hence, the steps performed in method claim 2 would have necessitated the elements in system claim 32. Therefore, claim 32 has been analyzed and rejected w/r to claim 2.

Claim 33 is a system claim corresponding to method claim 3. Hence, the steps performed in method claim 3 would have necessitated the elements in system claim 33. Therefore, claim 33 has been analyzed and rejected w/r to claim 3.

Claim 34 is a system claim corresponding to method claim 4. Hence, the steps performed in method claim 4 would have necessitated the elements in system claim 34. Therefore, claim 34 has been analyzed and rejected w/r to claim 4.

Claim 35 is a system claim corresponding to method claim 5. Hence, the steps performed in method claim 5 would have necessitated the elements in system claim 35. Therefore, claim 35 has been analyzed and rejected w/r to claim 5.

Claim 36 is a system claim corresponding to method claim 7. Hence, the steps performed in method claim 7 would have necessitated the elements in system claim 36. Therefore, claim 36 has been analyzed and rejected w/r to claim 7.

Claim 37 is a system claim corresponding to method claim 8. Hence, the steps performed in method claim 8 would have necessitated the elements in system claim 37. Therefore, claim 37 has been analyzed and rejected w/r to claim 8.

Claim 38 is a system claim corresponding to method claim 9. Hence, the steps performed in method claim 9 would have necessitated the elements in system claim 38. Therefore, claim 38 has been analyzed and rejected w/r to claim 9.

Claim 39 is a system claim corresponding to method claim 10. Hence, the steps performed in method claim 10 would have necessitated the elements in system claim 39. Therefore, claim 39 has been analyzed and rejected w/r to claim 10.

Claim 40 is a system claim corresponding to method claim 11. Hence, the steps performed in method claim 11 would have necessitated the elements in system claim 40. Therefore, claim 40 has been analyzed and rejected w/r to claim 11.

Claim 41 is a system claim corresponding to method claim 12. Hence, the steps performed in method claim 12 would have necessitated the elements in system claim 41. Therefore, claim 41 has been analyzed and rejected w/r to claim 12.

Re claim 42, the reference of Bottomley further discloses that, wherein the device comprises a mobile terminal configured for operation in a WCDMA wireless

communication network, and wherein the device is configured to determine the received signal quality via use of the processing circuit for one or more received WCDMA signal transmitted by the network. (In Bottomley, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Re claim 43, the reference of Bottomley further discloses that, wherein the mobile terminal is configured periodically to report Channel Quality Information for a High Speed Packet Data Service signal transmitted by the network based on determining received signal quality for the signal via the processing circuit. (In Bottomley, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Re claim 44, the reference of Bottomley further discloses that, wherein the mobile terminal is configured periodically to transmit forward link power control commands to the network based on determining received signal quality via the processing circuit for one or more WCDMA signals transmitted by the network. (In Bottomley, see sections I & IV. Furthermore, one skilled in the art would know that WCDMA require mobile terminals to compute received signal quality and transmit TCP commands back to the Base station.)

Claim 45 has been analyzed and rejected w/r to claim 1 above. Furthermore, the steps performed in method claim 1 would have necessitated a computer readable medium to store the computer program or instructions.

Claim 46 has been analyzed and rejected w/r to claim 11 above. Furthermore, the steps performed in method claim 11 would have necessitated a computer readable medium to store the computer program or instructions.

Claim 47 has been analyzed and rejected w/r to claim 12 above. Furthermore, the steps performed in method claim 12 would have necessitated a computer readable medium to store the computer program or instructions.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Flores whose telephone number is 571-270-1201. The examiner can normally be reached on Mon-Fri 7-5pm Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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